Circular Economy, Title, and Harmonisation of Commercial Law

This chapter considers the implications of law and circular economy on commercial law harmonisation, in light of the necessarily cross-jurisdictional nature of circular economies and the recognised role for English law in global harmonisation debates. Some of the more profound effects will be considered herein, most importantly the shift from "ownership" to "use" of goods as a guiding principle required by circular economic thought. This shift will have various effects on commercial law, but can fit with English law. The foundation of this analysis will thus be an illustration of the shift to governance of circular economic practices through contract rather than title, as better able to control use of goods. The implications for harmonisation as a mechanism for ensuring circular economy will also be considered. It will be suggested that general harmonisation is most unlikely, but aspects of commercial law may be harmonised through various means in order to effectively implement the contractual focus of circular economy.

1. INTRODUCTION

In the middle of the nineteenth century, Leoni Levi produced a compendium of the commercial laws of a vast array of jurisdictions, prefaced with a salutary reminder of the importance of cross-jurisdictional observation and analysis:

> In an epoch when commercial relations embrace the greatest public and private interest, when nationalities are all but blended into each other, when work, improvement, and welfare, are the all-prevailing ideas; and, when the rapidity of communication demands in a corresponding degree security and protection; the revision of the laws, statutes, usages, and customs of all countries becomes imperative. As nations are approaching each other, each is enabled to profit by the common experience; and it is of the utmost importance to watch carefully all innovations, and mark the reason and the starting point of all essential and permanent progress.[1]

Here, the aim is somewhat different, but the basic rationale remains the same: examine commercial law and practice in an era of changes to law, of technological change, and of developments in jurisprudential relationships. This chapter considers the effect of circular economy on law, and vice-versa. The next section outlines circular economic thought, and identifies the need to focus on aspects of ownership and control regarding goods. Section three will set out a specific problematic issue of English law in light of a need to shift from ownership to use in circular economies. This issue concerns the interrelationship between contract and property as control mechanisms for down-stream parties in a chain of transactions. Following this will be examination of harmonisation of commercial law. The problems faced by circular economies in terms of obtaining necessary levels of legal harmonisation will be identified. Two possible directions for harmonisation will be

[1] L Levi, *Commercial Law, Its Principles and Administration; or, the Mercantile Law of Great Britain* (William Benning & Co, London 1850) vol 1, vii. See further G. R. Rubin, 'Levi, Leone (1821–1888)', Oxford Dictionary of National Biography, Oxford University Press, 2004 [http://www.oxforddnb.com/view/article/16551]. All URLs accessed 01 September 2017.

considered: (1) application of property control mechanisms; and (2) application of contractual control mechanisms. The likely success of the latter direction will not result in the direct harmonisation of a circular economy law or laws, but this will not preclude a profusion of contractual control mechanisms to enable effective implementation of circular economic practices. Section five concludes.

2. CIRCULAR ECONOMY

The notion of a circular economy is a relatively recent development, though it has academic antecedents across a broad range of disciplines.[2] It has come to fruition in recent years by means of NGO and think-tank analyses,[3] before being taken up by domestic, regional and international governmental and institutional organs. These efforts have also found considerable support from corporate interests, both directly,[4] and via interest and lobby groups,[5] as well as via charitable organisations.[6] Additionally, there is governmental support (in the UK) in the form of recent funding calls offering to support the study of the circular

[2] See e.g. W R Stahel, 'The Product-Life Factor' (1982) (at http://www.product-life.org/en/major-publications/the-product-life-factor); W R Stahel and G Reday-Mulvey, *Jobs for Tomorrow: The Potential for Substituting Manpower for Energy* (New York: Vantage Press 1981) (examining the notions of closing loops in systems); R Frosch and N Gallopoulos, 'Strategies for Manufacturing' (1989) 261(3) Scientific American 94-102 (analogy between industrial and biological ecosystems); M Fischer-Kowalski and W Hüttler, 'Society's metabolism: The intellectual history of materials flow analysis, part II: 1970-1998' (1998) 2(4) Journal of Industrial Ecology 107-136 (the impact of socio-economics); W McDonough and M Braungart, *Cradle to cradle: remaking the way we make things* (New York: North Point Press 2002) (arguing that the 3Rs approach (reduce, reuse, recycle) is too wasteful, and a more intensive cycling of products is necessary). As to the importance of public (mis)perception, whilst 59% of respondents in a client survey though recycling helps the transition to a circular economy the most, the role of recycling is much more limited in a circular economy: G Hieminga, *Rethinking finance in a circular economy: Financial implications of circular business models* (May 2015) (at http://www.ing.com/About-us/Ourstories/Features/Circular-economy-challenges-financial-business-models.htm) 12. At the "Creativity within the Circular Economy" symposium, The Westminster Law and Theory Lab, University of Westminster, 24 March 2016, Jules Hayward of the Ellen MacArthur Foundation noted that the current approach to circular economic thought is a synthesis of existing work concerning the performance economy (Stahel), cradle to cradle (McDonough), natural capitalism (P Hawkin, A Lovins and L H Lovins, *Natural Capitalism: Creating the next industrial revolution* (Little, Brown and Co, 1999)), industrial ecology and symbiosis (MR Chertow, 'Industrial Symbiosis: Literature and Taxonomy' (2000) 25 Annual Review of Energy and the Environment 313), and biomimicry (https://biomimicry.org/). See generally http://www.circulareconomy.com/circular-economy/schools-of-thought/.

[3] F Preston, 'A Global Redesign? Shaping the Circular Economy' (Chatham House Briefing Paper, 1 March 2012), at https://www.chathamhouse.org/publications/papers/view/182376; Ellen MacArthur Foundation, *Towards the Circular Economy: Economic and business rationale for an accelerated transition* (2013) http://www.ellenmacarthurfoundation.org/assets/downloads/publications/Ellen-MacArthur-Foundation-Towards-the-Circular-Economy-vol.1.pdf. See also e.g. http://www.product-life.org/ (the Product-Life Institute was founded by Stahel, amongst others).

[4] See e.g. http://www.coara.co.uk/definitive-guide-circular-economy-businesses/ (a commercial asset recycling business); http://www.veolia.co.uk/circulareconomy (a waste management business); Hieminga, above n 2 (bank).

[5] For example, the management consultants McKinsey provide substantial research for the Ellen MacArthur Foundation's work on circular economy, and the Ellen MacArthur Foundation is heavily supported by corporate interests: https://www.ellenmacarthurfoundation.org/about/partners. See also e.g. Chartered Institute of Wastes Management, *The Circular Economy: what does it mean for the waste and resource management sector?* (October 2014) http://www.ciwm-journal.co.uk/downloads/CIWM_Circular_Economy_Report-FULL_FINAL_Oct_2014.pdf.

[6] http://www.wrap.org.uk/content/about-us. https://www.theguardian.com/environment/bike-blog/2016/oct/21/islabikes-radical-new-plan-means-you-may-never-need-to-buy-your-child-a-bike-again.

economy,[7] as well as more direct governmental agencies engaging in the issue.[8] These efforts often complement and refer to each other.[9] Academic interest has also accelerated.[10] What, therefore, is the circular economy?

A circular economy is often presented quite simply, as a form of interconnected (hence circular) sectors of economic practices, which enable minimization of waste products leaking out by various means at the different stages of the creation-consumption process. Different formulations can be gleaned from the different sources cited throughout this paper: what appears common is the basic notion of maximising value and minimising waste by means of better design at the outset and reuse/recycling at the end. The charitable organisation WRAP puts it this way: 'A circular economy is an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end of each service life.'[11]

It is important though to recognise that waste is just one aspect of circular economy. At the Creativity within the Circular Economy symposium,[12] Hayward suggested there were three principles at the heart of circular economic thought: (1) preservation and enhancement of natural capital; (2) optimisation of resource yields; and (3) fostering system effectiveness by revealing and designing out negative externalities. Put another way: circular economy is concerned not just with waste, but with designing and utilising mechanisms and systems for the long-term *use* of material objects.[13] Circular economy thus requires analysis of the transference mechanisms by which goods transition to different sectors of the circular economy.

Despite the necessarily holistic nature of circular economies, the centrality of waste and waste management, connected to claims as to environmental benefits, has resulted in regulatory regimes being structured around waste.[14] One of the earliest instances of the regulatory turn can be found in the Circular Economy Promotion Law of the People's Republic of China, which was promulgated in August 2008 and came into force in January

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[7] https://www.epsrc.ac.uk/funding/calls/circulareconomy/. The EPSRC also provides a position statement which provides a useful overview of the circular economy concept: https://www.epsrc.ac.uk/files/funding/calls/2015/circulareconomypositionstatement/.

[8] See e.g. Collaboration for a Circular Economy, Innovate UK at https://connect.innovateuk.org/web/collaborations-circular-economy/overview; Department for Environment, Food and Rural Affairs, *UK response to European Commission consultation of member states on the circular economy* (11 November 2015) (at https://www.gov.uk/government/publications/circular-economy-and-waste-markets-uk-government-response-to-european-commission-consultations).

[9] See e.g. DEFRA, above n 8, 8 (referring to the Ellen MacArthur Foundation and Hieminga's report for ING (above n 2).

[10] See e.g. Call for Papers for a special issue of the *Journal of Industrial Ecology* on 'Exploring the Circular Economy': http://jie.yale.edu/jie-cfp-circular_econ; https://www.ukela.org/circular-economy (special interest group of the UK Environmental Law Association); http://www.greatrecovery.org.uk/resources/what-is-the-great-recovery/ ('The Great Recovery is a project run by the RSA and supported by Innovate UK. It looks at the challenges of waste and the opportunities of a circular economy through the lens of design.')

[11] Cf http://www.wrap.org.uk/content/wrap-and-circular-economy.

[12] Above n 2.

[13] This explanation should clearly demonstrate why this chapter's focus is on material objects: intangible things, such as digital products, are not subject to the same sort of deterioration resulting from usage and can potentially exist forever (not least because, under the current technological framework, digital products are invariably duplicated when transmitted, and at worst are duplicable without any significant cost). Nevertheless they do need to be considered, as in e.g. Ellen MacArthur Foundation, *Intelligent Assets: Unlocking the circular economy potential* (8 February 2016), available at http://www.ellenmacarthurfoundation.org/publications.

[14] The centrality of waste to circular economic thought is likely to be part of a rhetorical tactic in order to enhance the ethical standing of circular economic analysis and related work: N Gregson, M Crang, S Fuller & H Holmes, 'Interrogating the circular economy: the moral economy of resources recovery in the EU' (2015) 44 Economy and Society 218.

2009.[15] It defined a 'circular economy' as 'a generic term for the reducing, reusing and recycling activities conducted in the process of production, circulation and consumption.'[16] This will 'be propelled by the government, led by the market, effected by enterprises and participated in by the public.'[17] In this sense, the Chinese first-step has been copied broadly by later adopters, for whom the role of government is key. This is illustrated in the preference for circular business practices in public procurement,[18] which would be mirrored by the UK government some six years later (noted below). The PRC also set out provisions that impose obligations to recycle certain named products onto producers, who are covered even if the material is 'deserted' (abandoned).[19] The heavy focus on waste (the nature, role and processing of waste) in the PRC's law would come to be replicated within the EU's own later circular economy strategy.[20] The EU's aim is to 'close the loop', and reduce waste sent to landfill.[21] Although it may be argued that the EU's strategy is more waste-focused,[22] it is not without reference to the need to engage producers to design and manufacture in circle-appropriate ways:[23] this may well just reflect the rather tortured history of this strategy which involved a failed attempt to produce a waste directive before moving into the broader circular economy field.[24]

The UK government responded to the EU Commission's consultations, through the Department of Environment, Food and Rural Affairs (DEFRA).[25] Perhaps unsurprisingly, the UK advocated in favour of the circular economic concept in general, with preferences for a light-touch regulatory approach which would amongst other things reduce the obligations to reuse/recycle waste for SMEs and other such groups,[26] as well as increasing data capture, usage and sharing across the single market (for design and waste aspects) to more effectively

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[15] For a translation, see e.g. http://www.lawinfochina.com/display.aspx?id=7025&lib=law. See also G Chen and B F C Hsu, 'Law and Policy in the Sustainability of Affordable Housing: The Case of China' (2012-13) 30 UCLA Pacific Basin Law Journal 259, 284-286.

[16] Circular Economy Promotion Law, Article 2.

[17] Circular Economy Promotion Law, Article 3.

[18] Circular Economy Promotion Law, Article 47.

[19] Circular Economy Promotion Law, Article 15. Cf R Linzer and S Salhofer, 'Municipal solid waste recycling and the significance of informal sector in urban China' (2014) 32 Waste Management and Research 896-907 (substantial proportion of recyclables are collected and processed by informal waste collectors); E Ryan, 'he Elaborate Paper Tiger: Environmental Enforcement and the Rule of Law in China' (2014) 24 Duke Environmental Law and Policy Forum 183, 189-190: 'The Circular Economy Law … is largely exhortatory and contains few enforceable provisions.' B Gillin, 'Keeping Up with Chinese Consumerism: Offsetting China's Individually Generated Garbage with Regulatory and Social Mechanisms' (2011-12) 13 Vermont Journal of Environmental Law 69 (regulatory changes will not work without corresponding effective social changes).

[20] http://ec.europa.eu/environment/circular-economy/index_en.htm.

[21] EC, *Closing the loop - An EU action plan for the Circular Economy* (COM (2015) 614). See further e.g. Y M Gordeeva, 'Recent Developments in EU Environmental Policy and Legislation' (2016) 13 Journal of European Environmental & Planning Law 120, 120-121.

[22] Cf Gregson et al, above n 14, 228-230: the UK's system of municipal materials recovery facilities is focused on weight as a costing system, thus the overall quality of recovered waste is generally irrelevant, which creates problems for the circular economy. This is arguably the consequence of focusing on waste-diversion, rather than resource-recovery, as 'the driving metric'.

[23] EC, *Closing the loop - An EU action plan for the Circular Economy: Annex I* (COM (2015) 614) (listing the various ways in which the EU plans to achieve its aims).

[24] See e.g. D Moore, 'Commission Pledges Tough Circular Economy Package Enforcement' (6 April 2016), http://www.ciwm-journal.co.uk/commission-pledges-tough-enforcement-circular-economy-package/.

[25] https://www.gov.uk/government/publications/circular-economy-and-waste-markets-uk-government-response-to-european-commission-consultations.

[26] DEFRA, *UK response* (November 2015), above n 8, 3: 'Exemptions for some SMEs from registering as waste carriers if they only transport small amounts of their own non-hazardous waste for example a small shop owner; Removing the need for applying for permit exemptions for activities that pose little risk, such as small-scale composting by schools'.

create and maintain circular business.[27] The volume of consumption in the form of public procurement, and the way that can contribute to a circular economy, was also recognised.[28] Whilst there are some other brief acknowledgements of the potential impact of moving towards circular economies on our understanding of property and commerce (in the sense of ownership),[29] the DEFRA report appeared content to refer to the work undertaken by the ING banking group,[30] which is examined in the next section.

There is thus an identifiable duality at the heart of circular economic thought: on one hand it is presented as an opportunity for dealing with production and waste in a more efficient manner in terms of environmental costs; on the other hand it can be understood as a commercially-focused ideology resting on new methods of diffusing ownership and use-rights in transaction chains. This latter understanding will now be explored.

3. THE SHIFT FROM CONTROLLING OWNERSHIP TO CONTROLLING USE IN CIRCULAR ECONOMY

The literature on circular economy has so far failed to identify and examine legal issues in any depth, and such brief examples that exist simply raise more questions than anything else. Property and ownership issues are at best acknowledged, then swiftly overflown. One rare (but still limited) example comes from Hieminga of ING:

> the legal and financial systems that support the current business environment may not be very conducive to the new setting that the circular economy requires. For example, the circular economy is based on the principle that waste does not exist and is a valuable resource in (perhaps another company's) production. But the circular economy faces a lot of legal barriers that limit the use of waste as an input.[31]

There are undoubtedly ownership difficulties surrounding reuse, recycling and waste,[32] and this could generate control problems: '[e]ven in a case where producers would – in the legal sense – keep ownership over sold products, the actual control over the products would be difficult to ensure.'[33] One way around this might be through adopting a so-called "ownership-heavy" approach. Hieminga suggests that such an approach can be effective in circular economic practice. He uses the example of how Van Scherpenzeel, a Dutch recycling company, owns the materials throughout their supply chain in the recycling sector. They own the waste from its collection, through its recycling, until it is reused.[34]

This ownership-heavy approach has a flip-side: contracting becomes key in controlling the use of goods. This is in turn connected to another change, though this is more conceptual and policy-orientated: a shift from ownership to access and use as being central to

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[27] See generally Department for Environment, Food and Rural Affairs, *UK response to European Commission consultation of member states on the circular economy* (October 2015) (at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/475862/circ-economy-eu-consult-uk-response.pdf).
[28] See e.g. DEFRA, *UK response* (November 2015), above n 8, 2-3.
[29] Ibid, 16: facilitation of reuse through e.g. '[e]xamining other opportunities to promote greater reusability and reparability in product design and support trade in second hand products while continuing to ensure effective regulation, including product standards for reuse and repair.'
[30] DEFRA, *UK response* (October 2015), above n 27, 8.
[31] See e.g. Hieminga, above n 2, 35.
[32] C Dalhammar, 'The Application of "Life Cycle Thinking" in European Environmental Law: Theory and Practice' (2015) 12 Journal of European Environmental & Planning Law 97, 106-107
[33] Ibid, 107 fn 31.
[34] Hieminga, above n 2, 32.

consumption.[35] This requires acknowledging a key effect of taking an ownership-heavy approach. Such an approach will concentrate and centralise ownership in the initiator in a circular economic transaction. They will want to control as many aspects of the goods' use as possible. These brief points alert us to potential problems regarding property, ownership and control in commercial context in circular economies. Three interconnected issues arise here when examined through a circular economy lens. First, what will be the effect of the shift from ownership to use? Second, what will be the role of property (title/ownership) in governing transactions (and the consequence of transactions) in circular economies? Interrelated to this examination is the role of contracts in this field: where property rules fail to fully and/or accurately replicate participants' wishes, contracts will step in. Third, given the role of property in sales, and the importance of contracting in circular economic transactions, are circular economic transactions capable of being sales?

3.1 SHIFT FROM "OWNERSHIP" TO "USE"

Fundamental to circular economy is the need to shift focus away from an ownership-perspective to a use-perspective as to our relationship with goods. What needs to be understood is that this shift from ownership to use is one of permanent consequence for the lifespan of the goods. Ownership acts as a potential blockage to circular economies; focusing on the use of the goods enables a more fine-grained level of control and thus opening up the contractual agreements for use to greater modification than ordinarily would be case. This may require contemplation of alternative commercial transactions which would more accurately represent a use-exchange model.

Hieminga provides eight conclusions about what may be necessary for financing practice in circular economies; it is suggested they also have broader commercial and legal implications, impacting on specific areas such as sale. The eight conclusions are:[36] (1) multiple forms of capital will be needed for financing circular business models; (2) pay per use models require emphasising cash flow timings; (3) '[c]ontracts are pivotal in financing circular economic models';[37] (4) pay per use increases the importance of creditworthiness; (5) value will be sought and found in second-hand markets; (6) end of use value needs to be accounted for; (7) '[s]upply chain finance can facilitate the circularity of supply chains and is expected to evolve towards earlier states of the supply chain';[38] (8) there are different and unpredictable implications. These points reveal various different potential methods for concentrating ownership and extending control through multiple parties. It is worth expanding on some of Hieminga's analysis.

Contracts will be 'pivotal'. This is both a cause and consequence of concentrating ownership. In the context of developments in pay per use, 'pay per use models value is first and of all created in the continuation of the contract instead of a one time sales value in the linear business model.'[39] The potential for long-term contracting, throughout the supply chain, further emphasises the importance of contractual continuity.[40] This is matched by the importance of the terms of such contracts. As Hieminga suggests 'If producers retain ownership of products during their life cycle it provides them with strong incentives to look after these products, maintain them well and make them valuable at the end of life. From a

[35] Ibid, 6. This shift is clearly evident in circular economy literature, such as the *Intelligent Assets* report, above n 13.
[36] Ibid, 37-46
[37] Ibid, 39.
[38] Ibid, 44.
[39] Ibid, 38.
[40] Ibid, 45.

circular point of view this has strong advantages but it comes with increased financial obligations.'[41] It is not difficult to see, in light of the proprietary nature of English asset financing law generally, that the shift from ownership to contracted-use could be problematic for asset financing in a circular economy.[42] The structures of property rights, and ownership interests, could impinge on material flows within a circular economy. Manipulating proprietary interests in assets, by utilising legal and equitable divisions, may be less flexible than delineating between personal use-rights.[43] What follows illustrates how shifts towards use may create conceptual problems between English law and circular economy, whilst also indicating possible ways in which English law would fit well in circular economies.

Proponents of circular economy seem to suggest quite radical transaction forms, and some see potential structural danger with the shift from ownership to use. For Gregson et al, it involves 'nothing short of a wholesale transformation of the basis of contemporary capitalism and consumption'.[44] Hieminga suggests a possible shift from business to business (B2B) or business to consumer (B2C) transactions using money as an exchange medium, to one where

> [n]ew market segments arise in which consumers interact with other consumers (C2C) and in which economic agents act both as manufacturer as well as consumer (C2B). Money is the main, but not necessarily the sole, medium of exchange as goods or services are for example exchanged against energy, time or waste.[45]

This change may well have implications in the conceptualisation of circular economy transactions, but it is worth remembering that English law occasionally displays considerable ambivalence towards attaching overriding importance to ownership. It is quite content with consequences of dividing types of transaction according to whether they transfer ownership. The obvious historical example is the development of hire-purchase in the late nineteenth century, which resulted in a doctrinal distinction between sales and hire-purchase.[46] Very recently the Supreme Court set the framework for sui generis retention of title clauses outside the sales law framework; this will be examined further below.[47]

Consumption for use rather than ownership seems to have rapidly become the prime form of consumption in the car market. Recent trends towards transactions that enable financiers to maintain control down the chain of transactions has led to concerns about the volumes of debt accrued through such transactions.[48] Prior to that there were concerns about the development of sub-prime asset financing through so-called log-book loans. There were numerous calls for reform, which appear to be succeeding with the introduction of a Goods Mortgages Bill in the June 2017 Queen's Speech following a Law Commission Report into

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[41] Ibid, 46.
[42] Ibid, 39.
[43] Ibid, 51: 'traditional leasing models are structured for manufacturers or vendors of 'hard assets' such as cars, trucks, trailers, copiers or medical equipment. These assets can be repossessed and remarketed in case of default or bankruptcy which makes it "true asset backed finance". The circular economy however is not limited to these "hard assets" with well developed second hand markets. Developing leasing models for "softer assets" first requires acceptance by financers of contractual comfort instead of legal ownership over assets.'
[44] Gregson et al, above n 14, 224, citing B Su, A Heshmati, Y Geng, & X Yu, 'A review of the circular economy in China: Moving from rhetoric to implementation' (2013) 42 Journal of Cleaner Production 215–227, 217.
[45] Hieminga, above n 2, 6.
[46] *Helby v Matthews* [1895] AC 471.
[47] Text following n 81.
[48] P Inman, 'MPs and charities urge car leasers to publish sub-prime loan figures' (Sunday 2 July 2017, *The Observer*, https://www.theguardian.com/money/2017/jul/02/car-leasers-publish-sub-prime-lending-figures-mps-charities.

this area.[49] Yet the point here is that this is just another illustration of consumers being willing to trade ownership (or at least a risk to ownership) whilst being able to retain use-rights, and the likely form of the legislation will be that such trade-offs will continue to be allowed.[50] Such analysis can be applied to potential circular economies more broadly. And as will be seen, whilst there may be changes wrought on commercial practices, moves to contract-focused transactions at the expense of ownership would be hardly novel in terms of modern English legal history.

On the other hand, problems might arise in the context of accession of goods. Hieminga gives the example of a situation where Philips, the electronics giant, might want to install a pay per use lighting system, 'and take responsibility for end of life disposal of the armatures and lamps', but in doing so they run the risk that such goods accede to the realty and become subject to third party claims.[51] Hieminga goes on to suggest that ownership and accession issues will be resolved through contract:

> There are practical workarounds available. Although legal ownership could be lost through accession parties can remain the economic owner of the goods through binding agreements. Parties can sign a contract that not only specifies the payment structure to use the service, but they can also agree upon what should be done in case things go wrong. And legally agreements must always be kept! In legal terminology: pacta sunt servanda. This might give both the supplier and financer enough comfort to close a deal.[52]

This approach is legally dubious. English law has regrettably, and arguably incorrectly, taken the approach that where goods become fixtures any prior owner or supplier loses priority regardless of any contractual agreement with the receiver.[53] One ray of hope here is in the final sentence in the quote above: if the supplier agrees with third parties that they have some form of priority then than can be protected, though only contractually.[54]

Another approach is to reverse our focus, and examine the extent to which proactive control in the absence of ownership rights can function to maintain circular economies. In the context of the Philips lighting example above, Philips runs the risk of a liquidator terminating the contract. However,

> Philips can build in a technical feature that allows them to turn off the service (lighting) remotely. With such a 'red button option' the liquidator has a strong incentive to continue the contract because otherwise the suppliers turns off the service and the property is worth less. However, such technical solutions are not always available or could raise legal issues.[55]

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[49] Details of the bill are here: https://www.gov.uk/government/publications/queens-speech-2017-background-briefing-notes. See also Law Commission, *Bills of Sale* (Law Com No 396, 12 September 2016); *Replacing bills of sale: a new Goods Mortgages Bill. Consultation on draft clauses* (July 2017).

[50] It is suggested that a similar process will likely occur with the car-finance market, ie such transactions will be regulated (lightly) but not prohibited.

[51] Hieminga, above n 2, 39.

[52] Ibid, 39.

[53] S Thomas, 'Mortgages, fixtures, fittings and security over personal property' (2015) 66 NIQL 343 (noting the convoluted judicial attempts to reconcile old doctrine with new commercial practices which involved novel utilisations of goods).

[54] Ibid, 39: 'As such the circular business must yield a high enough return to compensate for the additional risk.'

[55] Ibid, 40.

Contemporary and future shifts from ownership to use will likely be brought about by, and accelerated by, changes in technology as much as any other factor. Technological development, encapsulated in memetic phrases such as 'the internet of things',[56] 'autonomous vehicles', 'wearable tech', and so on, points strongly towards trends of automation, miniaturisation, connectivity and ultimately control.[57] Smart objects enable digital control and manipulation, both *of* the environment and more crucially *by* the environment. Interactivity is generally a multidirectional process, enabling connections to be drawn and maintained at very limited cost over long time periods.[58] Such control capacity has been a boon to those operating in the field of smart goods and technology, as intellectual property law regimes provide effective mechanisms for down-chain legal and practical control of the use of objects.[59]

Three brief, and notorious, examples will illustrate: Amazon's deletion of text-files purchased by Amazon Kindle e-reader owners where the files breached copyright (ironically of *1984* and *Animal Farm*);[60] the printer manufacturer HP using a firmware update to prevent printers using non-proprietary ink;[61] and the agricultural plant manufacturer John Deree attempting to prevent users from modifying software and hardware elements of goods.[62] Each example points to different behaviour by both user and manufacturer, and there was no consistency in the end result,[63] but at the core for each was an illustration of the down-stream control that could be maintained in the practical sense. The technological capacity to unilaterally delete an infringing file, or to alter the nature of the goods, is clear in the first two examples. But for both examples, and more pertinently the third, what is also on show is the legal strength backing up such contractually-based actions against digital assets (software)

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[56] See e.g. http://ec.europa.eu/digital-agenda/en/internet-things; http://www.internet-of-things-research.eu/; S Thomas, 'Security interests in intellectual property: proposals for reform' (2017) 37 Legal Studies 214, 216-220; K Manwaring, 'A legal analysis of socio-technological change arising out of eObjects' (5 January 2016) UNSW Law Research Paper No. 2016-15, available at http://ssrn.com/abstract=2690024; W K Hon, C Millard and J Singh, 'Twenty Legal Considerations for Clouds of Things' (4 January 2016) Queen Mary School of Law Legal Studies Research Paper No. 216/2016, available at http://ssrn.com/abstract=2716966.

[57] Privacy concerns burn brightly here: A G Ferguson, 'The Internet of Things and the Fourth Amendment of Effects' (2016) 104 Cal L Rev 807; M W Bailey, 'Seduction by Technology: Why Consumers Opt Out of Privacy by Buying into the Internet of Things' (2016) 84 Texas L Rev 1023.

[58] Cf Hieminga, above n 2, 46: 'Tracking sold products and services in order to perform maintenance over the life span or take them back at the end of the lifecycle requires knowledge about the whereabouts and conditions of the so called 'installed base'. Innovations like the 'internet of things' make easy tracking possible but require investments.'

[59] See generally S Thomas, 'Sale of Goods and Intellectual Property: Problems with Ownership' (2014) Intellectual Property Forum 25-43; S Thomas, 'Goods with embedded software: obligations under Section 12 of the Sale of Goods Act 1979' (2012) 26 International Review of Law, Computers & Technology 165-183. See also e.g. M A Lemley, 'IP in a World Without Scarcity' (2015) 90 NYU L Rev 460 (the reduced relevance of scarcity brought about by technological change may lead to reactions by IPR holders, such as attempts to control goods).

[60] B Stone, 'Amazon erases Orwell books from Kindle devices' New York Times (17 July 2009) available at http://www.nytimes.com/2009/07/18/technology/companies/18amazon.html; 'Amazon sued for Kindle deletion of Orwell' CBS News (31 July 2009) available at http://www.cbsnews.com/stories/2009/07/31/tech/main5201198.shtml; K DeGroot Carter, 'KNOW THIS: E-Books Update: Amazon's disappearing E-Books debacle' (6 August 2009) available at http://www.knowsomethingproject.com/publishing/0809ebooksdeleted.html.

[61] http://www.dailymail.co.uk/news/article-3797408/Licence-print-money-HP-faces-backlash-blocking-customers-using-cheaper-ink-cartridges-printers.html; https://www.theguardian.com/technology/2016/sep/20/hp-inkjet-printers-unofficial-cartridges-software-update.

[62] K Wiens 'We can't let John Deere destroy the very idea of ownership' Wired Business (21 April 2015), available at http://www.wired.com/2015/04/dmca-ownership-john-deere/.

[63] Amazon refused to back down. HP did back down: http://www.bbc.co.uk/news/technology-37503139. The John Deree case is continuing.

and its capacity to extend into controlling the use of tangible things.[64] This may help to protect the assets in the face of rather unclear and possibly flimsy provisions for the transfer of property rights in digital assets.[65]

These examples show the importance of two aspects underlying any shift in the relationship between ownership and use: the role of contracting (especially that of licencing) and the (related) capacity to manipulate the location and effect of the title of goods.[66] Manipulating title and retaining ownership may seem like a powerful response, but as will be seen, it is only really a catalyst for drawing attention to any underlying contractual agreement as between relevant parties. In this context, we must be wary of the potential impact of licences, which grows in the context of digital technologies.[67] Moreover, we must acknowledge the different time-scales that technological and legal developments operate on. The shift from ownership to use is a policy goal of circular economies. Such shifts can be accommodated in English law. However, policy goals for circular economies will more likely be first met by technological developments, and law will invariably be playing catch-up. This should make us aware of the possibility of English law utilising pre-existing forms and structures in order to cope with novel commercial practices; how this utilisation can occur thus needs analysis.

3.2 Role of "property" and "title" in sales

The meaning and treatment of ownership, in a practical sense and in terms of the structure and content of legal regimes, is clearly commercially important. Whereas sales are functional commercial activities, in the sense of being easily affected and manipulated by connected aspects of practical commerce such as financing choices and requirements, business structuring decisions, and decisions over control and use of assets, they still are governed by a body of formal rules combining in a property regime.[68] The Sale of Goods Act 1979 provides a body of rules pertaining to the transfer of property in sales, which is somewhat necessary by virtue of the definition of sale as being the transfer of property in the goods.[69] The rules on property concern various different aspects of transactions, providing structures which help ascertain who has standing, as well as determining liability for aspects such as loss or damage to goods.[70] Section 12 of the 1979 Act sets out an obligation to pass good

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[64] See also e.g. L Feiler, 'Separation of ownership and the authorization to use personal computers: Unintended effects of EU and US law on IT security' (2011) 27 Santa Clara Computer & High Technology Law Journal 131, 132–133 (noting different instances of IPR holders affecting ownership and/or usage of goods).

[65] See e.g. S Thomas, 'Security interests in intellectual property: proposals for reform' (2017) 37 Legal Studies 214; M B M Loos and C Mak, 'Remedies for Buyers in Case of Contracts for the Supply of Digital Content', *ad hoc briefing paper for the European Parliament's Committee on Legal Affairs, May 2012*, (Amsterdam Law School Legal Studies Research Paper No. 2012-71, 2012) at http://ssrn.com/abstract=2087626 (recommending greater clarity on the transfer of ownership rights over digital content).

[66] This is not to deny any other element's role in this process. Here the focus is limited for clarity and economy.

[67] Above n 59. See also A J Casey and A Niblett, 'Self-Driving Contracts' (1 March 2017), available at SSRN: https://ssrn.com/abstract=2927459 or http://dx.doi.org/10.2139/ssrn.2927459.

[68] Cf J Devenney and M Kenny, 'The omission of personal property law from the proposed common European sales law: the Hamlet syndrome … without the prince?' [2015] JBL 607, 618: 'Given that the sale of goods is, *fundamentally*, about the passing of property, any exclusion of property is significant because it threatens the overall coherence as well as the future prospects of the proposed CESL.'

[69] Sale of Goods Act 1979, section 2(1).

[70] *Re Waite* [1927] 1 Ch 606; *Re Goldcorp Exchange* [1995] 1 AC 74. Determining property is important for insurance purposes as well, because in English law, under SGA s 20(1), unless otherwise agreed, risk of loss passes with property. Tort law is also relevant here. In the event of a conversion or negligence claim, the claimant must be at least entitled to a right to possess the goods: *The Aliakmon* [1986] AC 785 (negligence);

title, and failure to do so voids the sale.[71] Property in the goods is deemed not to pass in unascertained goods,[72] but party intention is key to determining whether property has passed.[73] In the event of a failure to ascertain an appropriate intention, the Sale of Goods Act 1979, section 18 provides a variety of different rules to enable that intention to be determined. Passing title is essential, and you cannot pass a title that you do not have: *nemo dat quod non habet*.[74] In such cases an unsuspecting purchaser may be able to avail themselves of a number of exceptions to the *nemo dat* rule,[75] though it is often a complicated and treacherous path to success.[76] There have been relatively recent important changes concerning the property rights in bulks,[77] and most recently there has been a removal and replication of provisions concerning consumers.[78]

The importance of property, title and ownership concepts, how they are used (and can be abused, or may not work well), is clear for English law.[79] Despite some confusion and debate of the meaning of "property" and "title",[80] this chapter will side-step that issue by focusing on some other implications. Here three points can be drawn out. The first concerns the problems in English law concerning recent case-law on retention of title clause. The second and third points broaden the examination and illustrate how on one hand a wide variety of jurisdictions employ rules concerning obligation to pass good title, and then on the

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Kuwait Airways v Iraqi Airways [2002] 2 AC 883 (conversion). However, this chapter will focus on the sales regime.

[71] *Rowland v Divall* [1923] 2 KB 500.

[72] Sale of Goods Act 1979, section 16.

[73] Sale of Goods Act 1979, section 17.

[74] Sale of Goods Act 1979, section 21.

[75] The core exceptions are found in Sale of Goods Act 1979, sections 21 (estoppel), 23 (voidable title), 24 (seller in possession), and 25 (buyer in possession). The other core provisions are mercantile agency in the Factors Act 1889, section 2, and the hire-purchase exception for motor vehicles under the Hire-Purchase Act 1964, Part II (re-enacted by the Consumer Credit Act 1974, section 192, sch 4, para [22]; amended by the Sale of Goods Act 1979, section 63 and sch 2, para [4]).

[76] See e.g. S Thomas, 'The Role of Authorization in Title Conflicts Involving Retention of Title Clauses: Some American Lessons' (2014) 43 Common Law World Review 29-61 (concerning the complicated relationship between the very similar provisions on seller and buyer in possession under the Factors Act 1889 sections 8 and 9 and those in the Sale of Goods Act 1979); S Thomas, 'Transfers of Documents of Title under English Law and the Uniform Commercial Code' [2012] Lloyd's Maritime and Commercial Law Quarterly 573-605 (problems with voidable title).

[77] Sale of Goods Act 1979, sections 20A and B.

[78] The Consumer Rights Act 2015 has the functional effect of removing all consumer law from the Sale of Goods Act 1979, which can now be considered a type of commercial code. The Consumer Rights Act 2015 makes some changes (such as those concerning digital products) and removed and retained some recent changes to the old statutory regime (such as rules providing that risk does not pass to consumers until delivery in Consumer Rights Act 2015, section 29), but a number of property rules remain the same (such as those concerning transfer of property in Consumer Rights Act 2015, section 4, the obligation to pass good title in Consumer Rights Act 2015, section 17, and title conflicts, which the explanatory notes para 33 directs back to the Sale of Goods Act 1979 provisions). Economy unfortunately prevents analysis of these issues here. See further e.g. S Whittaker, 'Distinctive features of the new consumer contract law' (2017) 133 LQR 47 (property noted once in passing); P Giliker, 'The Consumer Rights Act 2015 – a bastion of European consumer rights?' (2017) 37 Legal Studies 78 (no mention of property).

[79] G Battersby and A D Preston, 'The Concepts of "Property," "Title" and "Owner" Used in the Sale of Goods Act 1893' (1972) 35 MLR 268; L C Ho, 'Some Reflection on "Property" and "Title" in the Sale of Goods Act' [1997] CLJ 571; G Battersby, 'A Reconsideration of "Property" and "Title" in the Sale of Goods Act' [2001] JBL 1. See generally also C Debattista, 'Transferring property in international sales: conflicts and substantive rules under English law' (1995) 26 Journal of Maritime Law and Commerce 29; T O'Sullivan, 'The Sale of Goods Act 1908: Rules for Passing of Property in Specific Goods. One Hundred Years On – Have the Rules Stood the Test of Time?' (2008) 14 New Zealand Business Law Quarterly 190.

[80] Cf K N Llewellyn, *Cases and Materials in the Law of Sales* (Callaghan and Co, Chicago 1933) xiv; K N Llewellyn, 'Through title to contract and a bit beyond' (1938) 15 NYU Law Quarterly Review 159.

other hand how the UN Convention on the International Sale of Goods operates its notoriously property-free regime. This will show how contracts can often take precedence as the determining factor in ascertaining the location and transference of property, but that this may have problematic results. Furthermore, the prevalence of rules protecting purchasers by obliging owners to pass good title creates a tension between a body of doctrine allowing commercial control of goods down a chain of transactions through contractual manipulation of property and another body of doctrine protecting those down-stream from suffering such infringements.

3.2.1 Retention of Title

English commercial law's avoidance of an overly strict regulation of commerce along with a tendency to assume that parties can, and are best left to, sort things out for themselves, means, as Gullifer puts it, 'the [statutory] provisions as to the passing of property … exemplify freedom of contract.'[81] English law provides that a seller can retain title. The Sale of Goods Act 1979, section 19 states that sellers can impose obligations, making the passing of property contingent on other events (e.g. full payment). In addition, there has been a forty year juridical meander from this legislative starting point, resulting in a complex and unclear body of law.[82] It is not clear the extent to which parties holding a retention of title clause can reach into and beyond assets, products and mixtures, though we can agree with Gullifer that retention of title clauses give sellers 'a powerful method of proprietary protection'. For the purposes of her analysis, she noted this was protection against 'counterparty credit risk', looking to the retention of title's usual role as securing the seller.[83] Acknowledging the primary function of retention of title clauses is to secure the seller in lending to the purchaser,[84] such clauses also demonstrate the role of contract in ascertaining proprietary rights. This can creates problems, whether due to deliberate skilled negotiating and drafting, or whether due to error or incompetence.[85] In addition, there is the impact (or lack thereof) of the Sale of Goods Act 1979, section 49(1): the seller's right to sue on the price depends on the passage of property. As the sale under retention of title terms will not lead to passage of property until the terms are met, then the seller could not sue on the price until that point.

Matters have been recently complicated by the Court of Appeal in the *Caterpillar* case,[86] and the Supreme Court's decision in the *Bunkers* case.[87] In *Caterpillar* the Court of Appeal held that the effect of the Sale of Goods Act, section 49(1) – the seller's right to sue on the price depends on the passage of property – meant that the seller could not actually sue on the price due to the presence of a retention of title clause. Only when title passed would

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[81] L Gullifer, '"Sales" on retention of title terms: is the English law analysis broken?' (2017) 133 LQR 244, 245.
[82] *Aluminium Industrie Vaassen BV v Romalpa Aluminium* [1976] 1 WLR 676 (CA); *Re Bond Worth Ltd* [1980] Ch 228; *Borden (UK) Ltd v Scottish Timber Products Ltd* [1981] Ch 25; *Clough Mill Ltd v Martin* [1984] 3 All ER 982; *Hendy Lennox (Industrial Engines Ltd v Grahame Puttick Ltd* [1984] 1 WLR 485; *E Pfeiffer Weinkellerei-Weineinkauf GmbH v Arbuthnot Factors Ltd* [1988] 1 WLR 150; *Compaq Computer Ltd v Abercorn Group Ltd* [1991] BCC 484; *Armour v Thyssen Edelstahlwerke AG* [1991] 2 AC 339. See generally e.g. L Gullifer, 'Retention of title clauses: a question of balance' in A Burrows and E Peel (eds), *Contract Terms* (Oxford, OUP 2007) 285.
[83] Gullifer, above n 81, 246.
[84] There is a long and complex debate about whether retention of title clauses are, or if not whether they could be re-characterised as a security interest. Here it is simply assumed that such clauses function as security interests.
[85] Gullifer, above n 81, 249-250.
[86] *Caterpillar (NI) Ltd (formerly FG Wilson (Engineering) Ltd) v John Holt & Co (Liverpool) Ltd* [2013] EWCA Civ 1232; [2014] 1 WLR 2365.
[87] *PST Energy 7 Shipping LLC v OW Bunker Malta Ltd* [2016] UKSC 23; [2016] AC 1034. See also A Tettenborn, 'Of Bunkers and Retention of Title: When is a Sale Not a Sale?' [2016] LMCLQ 24.

the right arise. Whilst Longmore LJ notoriously left this argument by declaiming this just showed there were costs as well as benefits to the retention of title clause,[88] Gullifer criticised this on the policy grounds that it ignores the fact that in cases of solvent buyers sellers want the price, not repossessed goods,[89] and welcomed the Supreme Court's overruling on this point.[90] In the *Bunkers* case the Supreme Court held, in essence, that the contract concerned was not a contract of sale, a conclusion Gullifer rightly describes as having 'far reaching consequences'.[91]

Gullifer has provided an excellent overview of the state of law following these decisions,[92] noting how the retention of title doctrine and the Sale of Goods Act 1979 are no longer compatible due to the Act's age and conceptual shortcomings.[93] Her criticism of the agency explanation given by the Court of Appeal in *Caterpillar* as opening up a raft of commercial difficulties in financing context is on point.[94] For the purposes of this chapter, it is worth noting that the effect of these decisions, in the context of the agency rationale, is to reinforce the contractual dominance of sales transactions which in itself will actually fit well within the context of the circular economy. This point is developed further in sub-section 3.3 below.

It is also worth teasing out a specific boon for circular economic practice arising from the Supreme Court's approach in *Bunkers*. By demonstrating the potential of a contractual transaction for the using up of tangibles that *does not* meet the requirements of a contract of sale of goods, the Court has provided (almost certainly inadvertently) a mechanism for commercial initiators in circular economies to restrict the nature of the transaction in a way that will be to their benefit.[95] By making sure that the transaction is not one of sale, complications arising from obligations to pass good title might be avoided, as might obligations against interference with quiet possession. Gullifer suggested that the obligations to pass good title are one particular thorny problem with the result of *Bunkers*, and she argued inter alia that a sui generis legislative response would need to implement a version of section 12 in order to resolve those problems.[96] Here it is suggested that circular economic practitioners, especially initiators of circular economic transactions, would resist such moves.

A particular implication not explicitly considered but which arises by implication of Gullifer's examination of the effects of this case law on the using up or perishing of goods,[97] is that on *Re Highways Food* situations.[98] When A sells to B on retention of title terms, and B sells to C on the same terms, which prevent title passing until the price is paid, it is possible now to say such transactions are not sales. In *Benjamin on Sale*, it states that '[w]here an owner is bound by a *sui generis* supply contract [of the sort in *Bunkers*] concluded by a mercantile agent, it should follow, though the position is not free from doubt, that the recipient of goods remains at liberty to use or consume them, even if the property has not yet

[88] *Caterpillar* [2014] 1 WLR 2365 [56].
[89] Gullifer, above n 94.
[90] Gullifer, above n 81, 253.
[91] Ibid, 254.
[92] Gullifer, above n 81.
[93] Ibid, 250.
[94] L Gullifer, 'The interpretation of retention of title clauses: some difficulties' [2014] LMCLQ 564.
[95] At this point, 'initiators' is used instead of 'sellers'. Such actors will initiate the commercial transaction (whether circular or linear) by being the first to dispose of the goods, but, and this will become clearer later in this chapter, they will not be disposing of the property in the goods and thus cannot be technically be called "sellers".
[96] Gullifer, above n 81, 262-263.
[97] Ibid, 259-260.
[98] *Re Highway Foods International Ltd, Mills v Harris (Wholesale Meat Ltd)* [1995] 1 BCLC 209, [1995] BCC 271. See generally S Thomas 'The Role of Authorization in Title Conflicts Involving Retention of Title Clauses: Some American Lessons' (2014) 43 Common Law World Review 29-61.

passed, accounting to the agent supplying the goods for the price.'[99] Whether the same logic applies in the *Re Highway Foods* situation is doubtful *(Benjamin on Sale* appears to reject the possibility). The extent of this effect of *Bunkers* must be left to another time, but the suggested consequence has the effect of further indicating the increased importance that is attached to the contractual arrangement between the parties.

3.2.2 Obligations to Pass Good Title

The obligation to pass good title, under the Sale of Goods Act 1979, section 12 (for consumers, the Consumer Rights Act 2015, section 17) is not a particularly ancient implied term, arising only in the mid nineteenth century.[100] Nevertheless, its importance was shown during a House of Commons Public Bill Committee Debate on the Consumer Rights Bill: 'Being able to use something freely and fairly is a fundamental part of buying it.'[101] The obligations under section 12 consist of a condition that the seller has the right to sell the goods, and two warranties of quiet possession and freedom from encumbrances. The right to sell has been interpreted as being distinct from the power to pass to title ie to sell.[102] Failure to meet this obligation can have significant and potentially questionable results, such as a windfall for purchasers who effectively face no set-off for their use of the goods between acquisition and termination for breach of section 12.[103] Yet it should not be thought that the warranties are of limited import here. Though their status means no right to terminate arises from their breach, consideration of the implications of their potential reach reveals some potential problems. In *Microbeads AG v Vinhurst Road Markings Ltd*,[104] an English company bought some a line-marking machine from a Swiss company. Some years later a different English company sued for patent infringement, seeking an injunction to prevent the use of the machines. Lord Denning MR held that although the infringement of the warranty of quite possession arose after the initial sale, the obligation to prevent this infringement continued regardless of the seller's innocence. The seller had to bear the loss.[105] More recently the unauthorised imposition of a time lock on a computer system was held to be a breach of the warranty of quite possession.[106] Combined these cases begin to provide the basis for a valuable form of protection against actions based on down-stream facing attempts to exert control over the use of goods. What is particularly valuable is the application of the section 12 protections here in the context of claims by intellectual property rights holders; patents in the case above, and trademarks in the earlier case *Niblett Ltd v Confectioners' Materials Co Ltd*.[107]

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[99] M G Bridge (ed), *Benjamin on Sale* (9th edn, Sweet & Maxwell, London 2014) [7-048].
[100] *Morely v Attenborough* (1849) 3 Ex Ch 500 (denied the existence of an implied warranty of title); *Eichholz v Bannister* (1864) 17 CB NS 708 (the very act of selling goods meant the seller held out that he was the owner of the goods unless the circumstances implied otherwise).
[101] Hansard, February 25, 2014, col 165 (The Parliamentary Under-Secretary of State for Business, Innovation and Skills (Jenny Willott)).
[102] *Niblett Ltd v Confectioners' Materials Co Ltd* [1921] 3 KB 387; *Great Elephant Corp v Trafigura Beheer BV (The Crudesky)* [2012] EWHC 1745 (Comm); [2013] 1 All ER (Comm) 415; [2012] 2 Lloyd's Rep 503 (reversed on appeal: [2013] EWCA Civ 905: this was on different grounds, and the conclusions from the QBD on the SGA s12 points were expressly approved: paras 20-21.
[103] *Rowland v Divall* [1923] 2 KB 500.
[104] [1975] 1 WLR 218.
[105] Ibid, 222-223.
[106] *Rubicon Computer Systems Ltd v United Paints Ltd (CA)* (2000) 2 TCLR 453.
[107] [1921] 3 KB 387.

This power of intangible rights holders to control the use of tangibles,[108] begins to disturb notions of ownership as much as any claims by retention of title clause holders. In the event of successful actions, the goods-holders are liable to the rights holder, and their source of recourse is their vendor.[109] In the event of vendor insolvency or disappearance the loss thus falls on the purchaser. A similar logic of course applies to the section 12 condition as it does to the warranties; the liability to the rights holder causes the liability, but the financial loss caused falls on the purchaser if they have no chance of claiming damages even if they can terminate the contract. The overwhelming volumes of intellectual property rights encased in smart objects raises two potential problems. The first is whether or not the section 12 jurisprudence will easily apply to the quite different conditions of contemporary objects of commerce compared to the 1970s (*Microbeads*) or the 1920s (*Niblett*). The second, and more dangerous, is potential utilisation of the inequality of bargaining power by parties wishing to authorise the use of their intellectual property by means of contracted-for licences. This would be in line with the shifting from ownership to control. Rather than using the sword or spear of retention of title clauses, there may be a preference for the entanglement possibility of contractual licences, limiting ownership *and* enhancing control over not only that specific intellectual property which the licence covers but by the consequences of technological integration the goods the intellectual property inheres in. By taking situations outside section 12, following *Bunkers*, control without corresponding obligations is a strong possibility.

3.2.3 CISG

A useful, brute, comparator to the English sales regime is the CISG. There, the lack of specific rules on property law is well known.[110] Article 4 states that the CISG only governs 'the formation of the contract of the sale'; the 'effect which the contract may have on the property in the goods sold' is not a concern of the CISG 'except as otherwise expressly provided'.[111] According to the CISG Secretariat Commentary, this

> makes it clear that the Convention does not govern the passing of property in the goods sold. In some legal systems property passes at the time of the conclusion of the contract. In other legal systems property passes at some later time such as the time at which the goods are delivered to the buyer. It was not regarded possible to unify the rule on this point nor was it regarded necessary to do so since rules are provided by

[108] See e.g. S Thomas, 'Security interests in intellectual property: proposals for reform' (2017) 37 Legal Studies 214, 240-242.
[109] For a very recent demonstration, see e.g. *R v M and others* [2017] UKSC 58 (no differentiation between goods produced without authorisation from a trade mark holder, and goods sold without authorisation (so called "grey goods") vis-à-vis criminalisation under the Trade Marks Act 1994 section 92(1)).
[110] See generally e.g. T Q Thang, 'Passing of Property Under Contracts for the International Sale of Goods: Should the CISG Regulate the Transfer of Property?' (2004) available at http://www.cisg.law.pace.edu/cisg/biblio/thang.html; M Wesiack, 'Is the CISG too much influenced by civil law principles of contract law rather than common law principles of contract law? Should the CISG contain a rule on the passing of property?' (2004) available at http://www.cisg.law.pace.edu/cisg/biblio/wesiack.html; M Torsello, 'Transfer of Ownership and the 1980 Vienna Sales Convention: a regretful lack of uniform regulation?' (2000) International Business Law Journal 939; E Visser, 'Favor Emptoris: Does the CISG Favor the Buyer?' (1998) 67 UMKC L Rev 77; W Khoo, 'Article 4' in C Bianca and M Bonell (eds), *Commentary on the International Sales Law: The 1980 Vienna Sales Convention (1987)* 44, available at http://www.cisg.law.pace.edu/cisg/biblio/khoo-bb4.html; R M Goode, 'Reflections on the Harmonisation of Commercial Law' (1991) 1 Uniform L Rev 54; A Romein, 'The Passing of Risk: A Comparison Between the Passing of Risk under the CISG and German Law' (Heidelberg, June 1999), at http://www.cisg.law.pace.edu/cisg/biblio/romein.html.
[111] CISG Article 4.

> this Convention for several questions linked, at least in certain legal systems, to the passing of property; the obligation of the seller to transfer the goods free from any right or claim of a third person [see CISG articles 41 and 42]; the obligation of the buyer to pay the price [see CISG Article 53]; the passing of the risk of loss or damage to the goods [see CISG Articles 66-70]; the obligation to preserve the goods [see CISG Articles 85-88].[112]

There are other areas of the CISG where property is to be found, as a referent or a subject of a provision. CISG Article 30 states that '[t]he seller must deliver the goods, hand over any documents relating to them and transfer the property in the goods, as required by the contract and this Convention', indicating that the CISG, whilst rejecting any attempt to provide rules on property, still requires the transference of property, and the governance of this transference of property is to be undertaken by the contract itself (and not the CISG). Thus on the issue of property in sales of goods, the CISG is content with the consensual approaches reached in individual transactions by the relevant parties to that transaction.

One of the major problems here concerns situations involving the insolvency or disappearance of parties to sales. Security interests and retention of title clauses, by being property matters, are subject to domestic determination.[113] By forcing parties to rely on domestic law the CISG's claim to uniformity is undermined, and there may be practical problems for such parties if the international transaction suddenly gets grounded in one or another domestic jurisdiction.[114] However, the CISG does provide guidance regarding obligations to pass good title, in Articles 41 and 42. Article 41 obliges sellers to deliver goods 'free from any right or claim of a third party'. Article 42 provides for such freedom 'from any right or claim of a third party based on industrial property or other intellectual property, of which at the time of the conclusion of the contract the seller knew or could not have been aware'.[115] There has not been much in the way of extensive analysis of this provision, rendering its scope and meaning quite unclear.[116] However, the most reasonable

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[112] The Secretariat Commentary to the CISG (available at http://www.cisg.law.pace.edu/cisg/text/secomm/secomm-04.html#1).

[113] *Roder Zelt-und Hallenkonstruktionen GmbH v Rosedown Park Pty Ltd and Reginald R Eustace* [1995] 57 FCR 216 (Federal Court of Australia); http://cisgw3.law.pace.edu/cases/950428a2.html; *Usinor Industeel v Leeco Steel Products* (2002 US DC (Ill)) 209 FSupp 2d 880; 47 UCC Rep Serv2d 887; http://cisgw3.law.pace.edu/cases/020328u1.html; *St Paul Guardian Insurance Co v Neuromed Medical System & Support* (2002 US DC (NY)) 2002 WL 465312; http://cisgw3.law.pace.edu/cases/020326u1.html; *Stolen Automobile Case* (21 March 2007 Appellate Court Dresden, Germany) http://cisgw3.law.pace.edu/cases/070321g1.html [see also *Automobile Case* (22 August 2002 District Court Freiburg, Germany) http://cisgw3.law.pace.edu/cases/020822g1.html - essentially identical]; *Milk Packaging Equipment Case* (15 July 2008 Foreign Trade Court of Arbitration attached to the Serbian Chamber of Commerce) http://cisgw3.law.pace.edu/cases/080715sb.html.

[114] As such there have been proposals to introduce property rules to the CISG: Proposal by Switzerland on possible future work by UNCITRAL in the area of international contract law, 8 May 2012 (UN Doc A/CN.9/758). See also e.g. L Galler, 'An Historical and Policy Analysis of the Title Passage Rule in International Sales of Personal Property' (1991) 52 U Pitt L Rev 521; S S Grewal, 'Risk of Loss in Goods Sold During Transit: A Comparative Study of the UN Convention on Contracts for the International Sale of Goods, the UCC, and the British Sale of Goods Act' (1991) 14 Loy LA Int & Comp LJ 93.

[115] Article 42(1). Article 42(2) imposes the same notice/knowledge test on the buyer.

[116] The extent of the literature on this Article is: S Kröll, 'Article 42' in S Kröll, L Mitselis and P Perales Viscasillas (eds), *UN Convention on Contracts for the International Sale of Goods (CISG)* (C H Beck and Hart Publishing, Munich and Oxford, 2011) 647; B Zeller, 'Intellectual Property Rights & the CISG Article 42' (2011-12) 15 Vindobona Journal of International Commercial Law and Arbitration 289; I Schwenzer, *Schlechtriem & Schwenzer: Commentary on the UN Convention on the International sale of Goods (CISG)* (3rd edn, OUP, Oxford 2010) 648; R M Janal, 'The Seller's Responsibility for Third Party Intellectual Property Rights under the Vienna Sales Convention' in C B Andersen and U G Schroeter (eds), *Sharing International Commercial Law Across National Boundaries: Fechtschrift for Albert H Kritzer on the Occasion of his*

interpretation has to be that it would have the same broad effect as the English doctrine. Article 42 essentially formalises something similar to the approach taken by the English courts considering section 12.

This raises a question: if there is similarity between a "property-heavy" regime and a "property-light" regime as to the importance of protecting purchasers by means of holding sellers liable for breaches of third party rights is that pointing to the importance of the role of property, or is it pointing more towards identifying the role of contract?

3.3 How and why contracting may eradicate sales in the circular economy

It is generally considered that there are a far greater proportion of formal contracts in international commercial transactions compared to domestic transactions. This is partially due to a lack of trust between such parties,[117] but there may be a wide range of reasons why the parties in international transactions might want a greater level of formality. This difference in use of contracts is a key factor when contextualising the multi-party, cross border nature of circular economic problems. The potential for control of goods by initial parties in the chain of transactions in a circular economy, in order to implement shifts from ownership to use as the governing conceptual basis for the transactional value of the thing, raises issue of negotiation of the contract, and of contractual licences.

The extent of the use of standard form contracts is related to the nature of the subject of sale. Commodity transactions are very often undertaken using standard form contracts, often issued by relevant trade bodies. On the other hand, sales of bespoke or non-fungible goods may well take place under the aegis of a unique, negotiated contract. In the context of circular economy though, transactions may, oddly enough, involve both types of contracts, in the sense that there may be bespoke contractual arrangements with regard to the whole asset combined with standard form agreements for specific aspects or contents of that asset. This is most likely to be the case with smart objects: goods which are able to interact with other objects and persons, consisting of hardware and software integrated so coherently that it is not possible to alter either element with affecting the functions of the smart object.

The authority to use IPRs is invariably by licence. Licences pervade the digital world. The capacity to access software is conditional on agreement to licence terms. These licences set out the extent of your powers as a user. The power to alienate, or modify, may be (almost certainly will be) restricted. They may include obligations regarding data capture and use. Moreover, the capacity to negotiate such terms is limited, not least by the fact that at least in a consumer context, they are often not even read.[118] Licences may also contain break clauses, having the effect of removing authorisation for use. Combined with the technical capacity to

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Eightieth Birthday (Wildy, Simonds & Hill Publishing 2008) 203; J A Van Duzer, 'A Seller's Responsibility for Third Party Intellectual Property Claims: Are the UN Sales Convention Rules Better?' (2001) 4 Canadian International Lawyer 187; C Rauda and G Etier, 'Warranty for Intellectual Property Rights in the International Sale of Goods' (2000) 4 Vindobona Journal of International Commercial Law and Arbitration 30; A M Shinn, 'Liabilities under Article 42 of the UN Convention on the International Sale of Goods' (1993) 2 Minnesota Journal of Global Trade 115.

[117] V Gessner, R P Appelbaum and W L F Felstiner, 'Introduction: The Legal Culture of Global Business Transactions' in R P Appelbaum, W L Felstiner and V Gessner (eds), *Rules and Networks: The Legal Culture of Global Business Transactions* (Hart, Oxford 2001) 1, 23.

[118] See e.g. Y Bakos, F Marotta-Wurgler, and D R Trossen, 'Does Anyone Read the Fine Print? Consumer Attention to Standard-Form Contracts' (2014) 43 The Journal of Legal Studies 1-35. For an amusing example, see e.g. A Hern, 'Thousands sign up to clean sewage because they didn't read the small print' *The Guardian* (17 July 2017) at https://www.theguardian.com/technology/2017/jul/14/wifi-terms-and-conditions-thousands-sign-up-clean-sewage-did-not-read-small-print.

prevent use of goods for infringements of licences to use software integral to the goods, the power of licences for some commercial parties becomes evident.[119] The breadth of possibility afforded by licences should no doubt attract initiators in circular economies, for whom the task is as much about controlling the use of goods down long chains of transactions as it is about locating ownership in a particular owner.

Another point worth briefly mentioning concerns the fact that long-term contractual relationships will need to be catered for, and the capacity of English law to provide for such a commercial model has been the subject of much debate.[120] There is a possible avenue for further research in terms of mapping on conceptualisations of relational contracts to circular economic practices. There will no doubt be room for examining in particular notions of potentially infinite relationships requiring continuing in-contract negotiation and planning for a future other than that of contract termination. These are likely to be key normative battlegrounds in the debate as to law and circular economy, especially as to how it relates to B2C transactions. This would be from a pragmatic stance ie locking consumers in, to more political and theoretical questions concerning whether such transactions/agreements are suitable in liberal democracies,[121] or whether they will perpetuate debt.[122]

It can thus be asked whether circular economic transactions will ever be sales. As has been seen English law has recently shifted, towards treating retention of title transactions as quite distinct from sales. This may have a dual effect: retention of title will not limit the possibility to claim for damages in the event of a failure to pay the "price", which in turn increases the likelihood of individualised contracts designed to escape the potential dangers of the Sale of Goods Act 1979. The other effect is to potentially collapse together understanding of dispositions of digital information such as software under copyright licence and dispositions of goods under a retention of title clause, into the same type of transactions where title is retained *and* use is authorised by means of a contractual licence, with whatever additional constraints that that form of authorisation can hold. This in turn allows for distribution of the licence, through sub-licences to all further users, which would help avoid the potential title conflicts that could arise where retention of title clauses were utilised in an attempt to achieve the same end. The shift to control over goods, to enable their most appropriate journey around a circular economy, will be achieved with greater ease.

4. HARMONISATION

The circular economy will inevitably be cross-jurisdictional, immediately raising questions of harmonisation. Will circular economies require pre-existing legal harmonisation? Or will circular economic practices of themselves result in the harmonisation of legal doctrine? These questions will be tentatively explored here, before considering whether something other than

[119] A further complication arises when the possibility of self-driving contract, contracts which automatically determine enforceable terms in order to reach a defined end result for both parties, is considered. Licences may well be manipulated beforehand, or during, automatically without human interferences. See Casey and Niblett, above n 67.

[120] See e.g. Hugh Collins, *Regulating Contracts* (OUP, Oxford 1999). The nature of relational contracts has a rich literature, often starting with Stewart Macaulay, 'Non-contractual relations in business: a preliminary study' (1968) 28 American Sociology Review 55. The work of Ian Macneil is often at the heart of the debate; for a useful overview and development of his work, see e.g. R Austen-Baker, 'Comprehensive Contract Theory: a Four-Norm Model of Contract Relations' (2009) 25 Journal of Contract Law 216.

[121] Cf M J Radin, *Boilerplate: the Fine Print, Vanishing Rights, and the Rule of Law* (Princeton University Press, Princeton NJ, 2013).

[122] Cf D Graeber, *Debt: The First 5,000 Years* (2011) (Melville House Publishing, London 2014) arguing exchange is definitely terminable, because it is between equals, but unequal transactions will continue, creating debt, forever.

harmonisation may prevail. It is necessary to caveat this discussion: the claims that follow about harmonisation are big, and what will be suggested is only a possible direction for developments. It is hoped though that this part will provoke debate about the relationship between circular economy and harmonisation, especially in the face of multilateral technological-managerial developments that will come with moves towards circular economy.[123]

Harmonisation is a tricky, multifaceted concept.[124] We could see harmonisation as unification. However, unification may lead to formal doctrinal rules and a prescriptive legal regime, limiting participant capacity to avoid or manipulate such rules. There may also be difficulties with the creation and maintenance of such rules, with tensions between different commercial cultures restricting effective implementation of harmonised regimes.[125] The history of the property rules in the CISG is a good example of this. Issues more internal to different regimes, such as incoherence and unpredictability, both in terms of internal assessments of legal regimes and in terms of correlating different jurisdictions, will impact on any moves towards harmonisation (or unification).[126] Other difficulties may be more in the political sphere; recent events such as Brexit, and the Trump Administration's withdrawal from the Trans-Pacific Partnership and the Paris climate accord, illustrate how political debates about sovereignty (however ill-informed) can impact on commerce and trade.[127] There are thus issues concerning identifying the subjects of harmonisation, the process of harmonisation, and the mechanism for maintaining harmonised positions (in the event of potential future ruptures).[128]

These are tough issues, and it may be that there is value in non-harmonisation, in difference. Even if we could accept that harmonisation might be a good thing, on balance,[129] we might still never properly resolve the underlying socio-cultural difference that gave rise to

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[123] On the importance of taking account of technological management in law, see generally R Brownsword, 'In the year 2061: from law to technological management' (2015) 7 Law, Innovation and Technology 1; R Brownsword, 'Technological Management and the Rule of Law' (2016) 8 Law, Innovation and Technology 100; R Brownsword, 'From Erewhon to AlphaGo: for the sake of human dignity, should we destroy the machines' (2017) 9 Law, Innovation and technology 117.

[124] D Nelken, 'Comparative Law and Comparative Legal Studies' in E Örücü and D Nelken (eds), *Comparative Law: A Handbook* (Hart Publishing, Oxford 2007) 3-42, 31 (making this point in the context of EU harmonisation projects). See also generally N Foster, 'Transmigration and Transferability of Commercial Law in a Globalized World' in A Harding and E Örücü (eds), *Comparative Law in the 21st Century* (Kluwer, London 2002) 55; M Andenas and C B Andersen (eds), *Theory and Practice of Harmonisation* (Edward Elgar, Cheltenham 2011); R Goode, 'Reflections on the Harmonization of Commercial Law' in R Cranston and R Goode (eds), *Commercial and Consumer Law: National and International Dimensions* (Clarendon Press, Oxford 1993) 3-27, and L F Del Duca, 'Developing Transnational Harmonization Procedures for the Twenty-First Century' in ibid, 28-40; I Fletcher, L Mistelis and M Cremona (eds), *Foundations And Perspectives of International Trade Law* (Sweet & Maxwell, London 2001).

[125] N H D Foster, 'Comparative Commercial Law: Rules or Context?' in Örücü and Nelken, above n 124, 263-286.

[126] See e.g. J M Smits, 'Convergence of Private Law in Europe: Towards a New Ius Commune?' in Örücü and Nelken, above n 124, 219-240.

[127] This article makes no specific claims one way or another about Brexit, or Trump. Rather, it merely notes that claims as to sovereignty were made by the proponents of such actions. For a valuable analysis of potential implications of Brexit on IP, see e.g. G B Dinwoodie and R C Dreyfuss, 'Brexit and IP: The Great Unraveling?' (30 June 2017) Cardozo Law Review (forthcoming), available at SSRN: https://ssrn.com/abstract=2996918.

[128] Cf M Siems, *Comparative Law* (CUP, Cambridge 2014) 233, differentiating "convergence" and "harmonisation" on the basis that the latter is 'based on a deliberate programme for legal unification'.

[129] For some general criticisms on harmonisation, see e.g. L Mistelis, 'Is harmonisation a necessary evil? The future of harmonisation and new sources of international trade law' in Fletcher, Mistelis and M Cremona, above n 124, 1; L Mistelis, 'Regulatory Aspects: Globalization, Harmonization, Legal transplants and Law reform – Some Fundamental observations', (2000) 34 International Law 1055.

the differences that entailed the question of harmonisation in the first place.[130] Furthermore, as Nelken perceptively observes, '[t]he development of the international economy often uses, emphasises or exacerbates differences in the places which produce goods and services even as it spreads homogenous appetites for such goods.'[131] What this means to the broader question of whether circular economy *needs* legal harmonisation though is unclear, but for the sake of clarity it is assumed that there may be something close to legal harmonisation in developments towards circular economy.[132] Two reasons support this claim.

On one hand, we could see harmonisation as less about formal unification,[133] and more about reaching some form of commonality between different legal systems, resembling something like the post-war European *acquis* or *ius commune*.[134] This sort of harmonisation results from a combination of political and socio-economic trends.[135] Another form of harmonisation may result from the globalised nature of circular economy: some form of harmony between different legal systems may be practically necessary in order for circular economy to work in anything other than jurisdictional autarky.[136] The following subsections expand on the harmonisation process in commercial context, and will suggest possible directions for harmonisation and circular economy.

4.1 WHAT SORT OF HARMONISATION WOULD BE BEST FOR CIRCULAR ECONOMY?

Foster has usefully suggested three main (though not exhaustive or exclusive) categories of harmonisation processes: 'institutionally organised; customary, market-based; and pressure to conform/inter-jurisdictional competition'.[137] The first concerns those efforts such as the CISG, the UNCITRAL Model Law on International Commercial Arbitrational, the Principles of International Commercial Contracts, the Model Guide on Secured Transactions. The second 'arises out of international transactions. They are not consciously planned, and *a*

[130] Cf P Legrand, 'How to Compare Now' (1996) 26 Legal Studies 232; P Legrand, 'The Impossibility of Legal Transplants' (1997) 4 Maastricht Journal of European and Comparative Law 111; L Nottage, 'Convergence, Divergence, and the Middle Way in Unifying or Harmonising Private Law' (2004) 1 Annual of German and European Law 166; R Cotterell, 'Is it so Bad to be Different: Comparative Law and the Appreciation of Diversity' in Örücü and Nelken, above n 124, 133-154.

[131] D Nelken, above n 124, 3-42, 31.

[132] Cf Siems, above n 128, ch 9 generally, and 255-258 in particular, for an overview of the pros and cons of what he calls convergence (though for our purposes the arguments apply to harmonisation, if distinguished from convergence), with a tendency towards seeing convergence in a positive light.

[133] Cf Mistelis, 'Is harmonisation a necessary evil?', above n 127, 4: 'harmonisation is a process which may result in unification of law subject to a number of (often utopian) conditions being fulfilled, such as, for example, wide or universal geographical acceptance of harmonisation instruments, and with wide scope of harmonising instruments which effectively substitute all pre-existing law.'

[134] This would include development of the Draft Common Frame of Reference and the Principles of European Law, amongst other things.

[135] See e.g. M Gelter, 'EU Company Law Harmonization Between Convergence and Varieties of Capitalism' (May 30, 2017), in H Wells (ed), *Research Handbook on the History of Corporation and Company Law* (forthcoming), Fordham Law Legal Studies Research Paper No. 2977500, European Corporate Governance Institute (ECGI) - Law Working Paper No. 355/2017, available at SSRN: https://ssrn.com/abstract=2977500 (suggesting a shift in economic perspectives with the entry of the UK to the then EC in 1972 affected EU corporate law).

[136] Foster, above n 124, 56: 'Commerce is by its nature international, and there is therefore no field in which there is more harmonization than commercial law, with numerous transplants … Globalization is itself largely a commercial phenomenon.'

[137] Ibid, 57. Mistelis, n 127, elucidates may varies categorisations of harmonisation. Foster's is taken here purely for clarity.

fortiori are not conceived within any institution.'[138] The third concerns, broadly, legal transplants (of various forms and styles).

For circular economies, movement towards harmonised *aspects* of commercial law may be required not least because doctrinal similarity will be necessary to prevent off-shoots and breakages in circular economic processes as they flit through jurisdictions and across boundaries. This can be conceptualised as a tension between focusing on global and local perspectives. Cotterrell explains it thus:

> I take globalization simply to mean tendencies (however interpreted) towards transactional uniformity in economic or social arrangement, institutions and values. Localization is taken here to refer to counter-tendencies (of whatever kind) towards protection, assertion or facilitation of diversity, difference, independence, separation or autonomy of groups, nations or territories, most often in matters of government or common values or traditions. … Globalization seems pre-eminently to be about seeking similarity by unifying social, economic and often legal arrangements. Localization seems to be about appreciating difference by creating, preserving or rediscovering conditions in which difference (for example, political or cultural) can flourish and be respected.[139]

Circular economies are cross-jurisdictional, in multiple locations connected through various tangible and intangible means across multiple nodes. In order to operate such economies, there needs to be mechanisms for long-term and long-distance control, which must necessarily cross over any of the potential boundaries to which circular economies are potentially susceptible. This is obviously going to be a difficult task, for each of the counter-tendencies towards localism Cotterrell identified could themselves operate powerful and potentially fatal attacks to the unifying effects of harmonisation. However, it is not difficult to discern this happening in the field of commercial activity, the stronghold of harmonisation activity.

Commercial harmonisation efforts have had various degrees of success. This is still no such thing as an International Code of Commerce or a worldwide commercial court. Moreover, those harmonisation efforts often portrayed as successful are either specific in focus (Cape Town Convention), or have well-known exceptions and limitations in scope of coverage and substantive content (CISG). Yet as much as there is difficulty extending towards full harmonisation, this does not mean lessons cannot be learnt from harmonisation efforts about how to deal with the contest between global and local approaches.

4.2 WHAT IS LIKELY TO HAPPEN?

Cotterrell sets out the urgency in harmonisation efforts: 'The question is not "whether or when?", but "how and on what model?"' Comparative law may help in such efforts by identifying 'sources of friction' and bypassing or eradicating them, 'by inventively smoothing out legal differences, creatively interpreting legal change to those who must accept it, or preserving familiar forms, concepts and styles of legal practice and thought while adjusting to meet transnational requirements.'[140] The implication here is that the effect of harmonisation efforts can be tied, loosely or tightly, to the tasks deemed necessary to get around problems in

[138] Ibid, 58.
[139] R Cotterrell, 'Seeking Similarity, Appreciating Difference: Comparative Law and Communities' in Harding and Örücü, above n 124, 35, 43.
[140] Ibid, 45.

such processes. It is worth recognising the implication that harmonisation may be the result of efforts in *preservation* of legal doctrine and action.

The role of industry is also recognised as being an essential element in the success of commercial law harmonisation in many other contexts (and conversely, absence of an effective industrial voice in the process can have a fatal effect on harmonisation efforts).[141] Cotterrell sets out that

> the opening of trade and commerce on an ever wider transnational basis, the development of international banking and financial systems, the world-wide control and exploitation of intellectual property, the development of the internet, and the control of transnational crime of many kinds. All of these projects are seen to require, for their efficient pursuit, significant harmonization of nation states, or the creation of new transnational regulatory regimes.[142]

A useful example here is the Cape Town Convention, and the protocol thereto on aircraft financing.[143] One of the core factors in the success of this Convention is often thought to be the role of industry, in particular the aviation industry, as a major driving force.[144] A strong level of harmonisation amongst elites who operate and maintain a particular regime may eradicate underlying cultural differences.[145] These elites need not be political elites; commercial harmonisation has been driven by self-interested commercial parties and organisations. Such commercial bodies have communality of purpose, and act in accordance with a broad body of rules and principles (whether formal or otherwise). Without getting into the debate about the presence or otherwise of a contemporary (or even historical) *lex mercatoria*, it is simply suggested that commercial actors can be discerned to be acting in sufficient concert as to constitute an international commercial culture (or at least, related cultures). In this sense, the elites have not so much eradicated underlying cultural differences as much as their cultural communality has become the dominant factor.[146] This can be seen in not just the Cape Town Conventions, but in other agreements whether in the form of treaties such as the CISG, or in uniform or model guides such as UNCITRAL's UPCC, or the Model Guides on Secured Transactions. At the end of the scale classic soft-law such as the ICC's UCP on documentary credit also demonstrates a strong cultural communality as between the financiers (who basically insist on the UCP) and the users of such action (who readily accept it in the event of a letter of credit transaction).

On the other hand, Smits has suggested that the success of private law harmonisation efforts is due partly to the communality in the globalized commercial world as to contracting law; this is demonstrated by contra-distinction with the status of property law harmonisation.[147] For Smits '[t]he great difference between contract law and property law thus seems to be that the former is much more tied to a non-national environment than the latter one', though with the caveat that there may need to be division between different

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[141] For example, the lack of enthusiasm from commercial and consumer interests scuttled the proposed Common European Sales Law.

[142] Cotterrell, above n 139, 44, citing J Weiner, *Globalization and the Harmonization of Law* (Pinter, London 1999).

[143] http://www.unidroit.org/instruments/security-interests/cape-town-convention. There is a valuable bibliography at http://www.unidroit.org/biblio-2001capetown.

[144] M J Sundahl, 'The Cape Town Approach: A New Method of Making International Law' (2006) 44 Columbia Journal of Transnational Law 339, 349-354.

[145] Foster, above n 125.

[146] Cf Foster, above n 124, 68-69.

[147] J Smits, 'On Successful Legal Transplants in a Future *Ius Commune Euorpaeum*' in Harding and Örücü, above n 124, 137, 147.

"segments" of contract (say between commercial and consumer contracts).[148] It should be noted that Smits was concerned with real property. However, we have seen above the effect of the differences over personal property rules, and as such we must recognise that element of truth implied by Smits' analysis: the contractual field provides great flexibility for parties to manipulate and control their relationships across a wide range, but property law(s) may militate against such a tendency due to a more static social position.[149]

We can therefore compare the possible trajectory of harmonisation for circular economy with that of two other harmonisation projects which are generally deemed successful: CISG, and the Cape Town Convention on Mobile Equipment. CISG involved a variety of jurisdictions with different social, economic, cultural and other differences. Compromises were necessary and the absence of property rules is one of the more obvious examples of the exclusionary effects of compromise. For circular economy that is not an insurmountable problem. As seen, the shift away from ownership to use will arguably come partially as a result of contracting licences as the primary method of disposition, with the exacerbating factor of re-characterising retention of title transactions as something other than sales, might combined have the effect of showing that circular economy will not be concerned with sales transactions as we commonly understand them. This could lead to two positions. First, the CISG will not be a suitable umbrella for such transactions, as they are both divorced from sale and likely to be too diverse for CISG to be an appropriate framework. Second, the potentially limited role for sales might actually mean that those transactions that actually are sales (and which may still be necessary in a circular economy) may be more appropriately dealt with under the pre-exiting harmonisation scheme offered by CISG. Nevertheless, without progress on the status of property in the CISG this suggestion must be made with considerable caution.

For the Cape Town Convention the story is slightly different, and the end result quite different. The Cape Town Convention involved a variety of powerful industry interests, alongside a stellar academic background, and proceeded to produce a viable and elegant system involving an international register of transactions. Despite its success, its applicability as a harmonisation project to circular economy is severely limited. The Cape Town Convention involved a rather specific type of goods (aircraft),[150] whereas circular economies will involve vast ranges of goods, notwithstanding the necessary extension to the production and disposition sides (covering material inputs and waste products). Registration of interests is economically feasible in the context of mobile equipment as per Cape Town, but such an approach would be unfeasible for circular economy transactions. This is not to say though that no registration is possible. Aspects of the circular economy would not doubt be subject to registration, as is already the case with vast swathes of the economy. These registers will begin to converge as a result of technological development, rendering the process of registration and the storage and use costs of the data more marginal as time progresses. A "central" register for all circular economic transactions though is most unlikely. Furthermore, licences will not be cost-neutral; there will invariably be negotiations and modifications by both parties. The danger is that cost-inducing actions such as negotiating at the outset or bargaining for authorisation to modify, will be born by the unequal partner in the arrangement, suggesting a likely down-chain transfer of costs.

Comparing CISG and Cape Town reveals a conceptual issue that any harmonisation process will need to engage with. CISG concerned sales. Cape Town concerned secured transactions. At the heart of both concepts is the idea of property (even if CISG has taken an

[148] Ibid, 148.
[149] Ibid, 150-151.
[150] Other types of goods such as rail stock, were also covered, but it is the aircraft sector which was and remains the dominant power here.

idiosyncratic approach to property), and in particular at a commercial law, it is about transfers of property interests for commercial gain. However, circular economy transactions will reflect a move from ownership to use, expressed in a move from proprietorian to personal control. This may create problems for the conceptual bases of CISG and Cape Town, with the development of new transactional forms that may merge or mutate previous forms. Thus a further note of caution must be noted. If there is to be harmonisation in order to achieve circular economic goals, it is essential to first ascertain the new sorts of transactional relationships that will arise (with attendant issues concerning the commercial/consumer relationship). As suggested, the focus will be on the contract aspect of such relationships rather than property. Thus the direction harmonisation would likely take, at least at the outset, is in harmonisation of contract control mechanisms. However, this claim must be caveated by the likely pre-emption of any directed harmonisation processes by means of profusion amongst circular economy participants of contract relationships that reflect the urge to have cross-jurisdictional control of goods in order to reflect the shift from ownership to use.

4.3 IS SOMETHING OTHER THAN HARMONISATION MORE APPROPRIATE?

Hugh Collins has effectively critiqued the potential dangers of transnational private law, focusing on its dislocated nature separate from any underlying fixed social grounding.[151] Whilst private law, whether national or transnational, operates from a rather narrow starting point, certain types of transnational private law operate from even more narrow foundations. This can be compared with domestic private law regimes which take into account broader concepts of social justice (including, Collins argues with some success, principles of cosmopolitanism). Collins recognised that private law has to deal with some thick concepts of social ordering: 'the rules governing ownership of property, the protection of material and personal interests, and the system for governing transactions can be viewed [as] the cement that holds the different parts of society together.'[152] The effect of this is that transnational legal systems might be able to 'provide a scheme of justice that could be embedded in global or regional markets', and thus might be able to promise 'secure normative foundations for markets that are no longer effectively governed by a nation state',[153] but they fail to do so because they either suffer sectoral limitations (in the case of the *lex mercatoria* systems), or because they fail to respond in a sufficiently broad, encompassing and flexible way to encompass the social justice embedded within currently domestic private law regimes (this is the case of EU private law).[154]

Similar to Collins is Cotterrell's argument that even if we think of law as being a conglomeration of different cultures, meaning '[d]ifferent kinds or areas of law relate to different *types of community*', then there is a danger with overvaluing one particular community over another. He raises the issue of an '*instrumental* community as the kind of social relationships that are based on common or convergent purposes – especially, but not necessarily, economic purposes', and notes that while harmonisation efforts are often driven by perceptions of that community's status, 'if law serves it exclusively at the expense of protecting and promoting the well-being of other kinds of social bonds, other types of

[151] H Collins, 'Cosmopolitanism and Transnational Private Law' (2012) 3 ERCL 312.
[152] Ibid, 312.
[153] Ibid, 324.
[154] Ibid, 324-325. Cf Nelken, above n 124, 31: 'Convergence can also be pursued as part of a deliberate political project such as harmonisation of law in the European Union. Because this is something in which comparative lawyers play an important part it has led to heated debate about whether harmonisation leads to the sacrifice of diversity and whether this is something to be resisted.'

community, it fails to meet some important demands.'[155] Although such communities can be provided with highly tailored harmonisation efforts, the way they serve 'social groups (especially commercial enterprises, trade networks and economic interest groups) that mutate rapidly as national and international markets alter.'[156]

Circular economy may suffer similar difficulties. On one hand, there may be sectoral limitations if circular economic practice is unable to extend beyond sub-specific examples; it will need to be able to provide "whole-regime" responses to issues concerning all types of private law concepts. Potentially more fatal to circular economic practice might be the difficulties arising from the almost paradigmatic shifts that will occur in terms of how transactions occur and what the effect of such transactions will be, in order to support long-term down-chain control, necessary for effective implementation of circular economic practices. This will probably lead to some form of political contestation, and this can be seen in the context of the EU-centric nature of some circular economic thought.[157]

We must be wary of the fact that '[l]egal cultures are thus overlapping and inter-related and may come together in unexpected ways. The method of law-making by Directive of the Commission of the European Union is closer to civil than it is to common law tradition, but much of the substance of such laws has to with common law influenced ideas of liberalism and the free market.'[158] Regardless of the complexities arising from Brexit, the point to be taken from Nelken's analysis is that normative and formative issues concerning law and society may combine in interesting ways. The circular economy necessarily raises such issues of combination, and thus engagement with the possible ways of encompassing circular economy as cross-border society raises the need for a new form of governance that can be respond to an era of technologically-enforced hyper-globalisation and confusing and often reactionary behaviour by states and corporations.

Mere harmonisation or unification of doctrine will not suffice. The very act of harmonisation/unification has been subject to so much critique from a theoretical perspective, and can be demonstrated as giving rise to far too many problems at all stages (proposal, application, maintenance), that it arguably is not worth attempting in any situations more complex than those that focus on a very narrow sector operated by and for particular elite participants (such as that found with the Cape Town Convention). The circular economy necessarily encompasses too broad a range of stuff, and will involve multiple different participants causing a potentially complex debate over the content of any harmonising instrument.

Where there may be successful harmonisation (or harmonisation-like activity) may be at the very soft end of the spectrum. This is likely to occur in the context of enhanced attention being paid to the content and structure of contracts for the use of goods at different points along the circular economy. There are a number of benefits of such an approach, particularly for commercial organisations. First, the retreat to contract is a retreat to a point of accepted safety: party autonomy is such a strong principle within the intellectual framework of international commercial law (and, importantly, amongst international commercial *lawyers*) that challenges are usually unsuccessful. By going to contract, and claiming the principle of party autonomy, commercial entities will essentially have a rhetorical trump card which may have a blinding effect on practitioners, legislators, regulators and academics.[159] Second, the shift from ownership to use, within the ideology and foundational normative work on the circular economy, can be analogised with the recent developments in English

[155] Cotterrell, above n 139, 47.
[156] Ibid.
[157] Gregson et al, above n 14, 225.
[158] Nelken, above n 124, 29.
[159] This is certainly the consequence of reasoning such as in *R v M and others* [2017] UKSC 58, above n 109.

law with regard to the effect of retention of title clauses. In such cases, there is no contract of sale. The proprietary element of the transaction is that which takes it out of the SGA framework, which in turn necessarily increases the importance of the contractual framework of the specific agreement(s). Moreover, the shift away from ownership, which is a shift away from sale, means that there is unlikely to be harmonisation with CISG in the context of a response to circular economy. Third, the move to contractual control will provide bargaining power to those with the strongest negotiating position; this is likely to be commercial organisations. This raises obviously tough questions in terms of the status of consumers in circular economies, but it would be wrong to ignore the point that commercial inequality can be just as great. Furthermore, the advantage of being an initiator in circular economic transactions is that one has the power to control later transactions. Since there will invariably be a number of down-chain transactions, notwithstanding any interactions with other circular economies (due to the complexity of modern globalised commercial practices), the reification of contractual control will provide those parties capable of negotiating and modify their contracts with especially valuable power. The benefits suggest that non-formal harmonisation, with contracts (and contracting practices) functioning as operative harmonizing instruments in a soft-law context, will be acceptable for certain commercial parties.

5. CONCLUSION

Circular economic ideas are relatively novel; commercial practices instigating such ideas are even newer. Legal analysis of circular economies is lagging behind in the broad literature. Here it is been suggested that one of the core underlying shifts engendered by circular economy is a move away from "ownership" to "use" as governing practices for commercial engagement with goods. One of the results of this will be a reconceptualization of the notion of sale: transaction chains will transmogrify into circles, with "initiators" (rather than "sellers") beginning the process and controlling the objects' journey around the circular economy and capturing and recalling back any waste products that do break out of the circle. This in turn presents a number of challenges for commercial law, in particular the purpose and nature of property and title ideas that have stood the test of time as central foundations of the English commercial law. Recent case-law on retention of title clauses indicates a break between such clauses and the sales regime; such agreements can be considered *sui generis* providing the parties retaining title with a wider array of potential remedies against recalcitrant purchasers. The full implications of the *Bunkers* case are yet to be seen, but that case arguably enhances the role of the contract and the use of the goods, rather than the ownership and the property in/of the goods. By accepting that it is not a zero-sum game and that one can both retain title and not have a sales transaction, the door is open for licences to use goods to burst through. Initiators can retain title, which can then be used as an additional protection focusing on the value of the transaction, whilst maintaining that the contract with the first acquirer is a non-sale contract. This would help to avoid some of the potential traps arising from the section 12 obligations. Furthermore, by taking advantage of the role licences could play, especially as they can control more sub-acquirers in more subtle and more complex ways, initiators can increase the chances of their control of far greater proportions of the circular transactions. Contracts with the power of property – contracts which extend their reach through multiple participants – will not only happen due to the nature of free market bargaining (within obvious limitations), but because of the necessity of accepting loss of control for participation (other than as an initiator) within a circular economy.

Law and circular economy are already in an unknowing, unwitting relationship. Regulatory frameworks exist, even if they are lacking in detail and substance. More

importantly, commercial practices on circular economic lines are already evident and occurring; small suggestions as to potentially large fissures in the law have already been made. Most importantly, circular economic thought is attracting interest from various commercial and corporate lobby and interest groups. Drawing on the environmental benefits (however speculative) will no doubt help the commercial side gel with the NGO participants in this debate. It is therefore possible that law and circular economy will come together, but this will require us to rethink our understanding of the practices of commercial transactions.